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THE FOLLOWING IS THE ENGLISH TRANSLATION OF THE
ANNEXES TO THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT UNDER ARTICLE 34:
Amended Sheets (pages 38-41a)

CLAIMS

1. A device for measuring exposure to radiations comprising at least one component for detecting photons or particles, associated with at least one circuit for acquiring and counting detection events, the acquisition circuit including a signal processing circuit delivering count pulses corresponding to detection events, means (RAZ) for continuous resetting

characterized in that the acquisition circuit further includes means (SWT) for discontinuously resetting the pulse signal processing circuit.

2. The device according to claim 1, the response curve of the number of counted events versus the number of photons or particles sensed, by each detection component, being a monotonous increasing curve.

3. The device according to the preceding claim, wherein the response curve has a first response range which increases substantially linearly, the number of counted events increasing proportionally to the number of sensed photons or particles, followed by a second response range which is simply increasing, the number of counted events continuing to increase or remaining stable as long as the number of sensed photons or particles increases.

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4. The device according to any of the preceding claims, comprising a detection entity formed with a plurality of elementary detectors respectively associated with a plurality of circuits for acquiring
5 and counting events forming an electronic processing entity arranged according to a matrix layout.

5. The device according to any of the preceding claims, the continuous resetting means (RAZ)
10 triggering a resetting current in a charge accumulation stage of the acquisition circuit.

6. The device according to any of the preceding claims, the means (SWT) for discontinuously
15 resetting the pulse signal processing circuit, triggering after each detection event, rapidly or after a charge-to-pulse conversion phase, the return to an idle operating point of an amplification stage of the acquisition circuit.

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7. The device according to any of the preceding claims, the continuous resetting means (RAZ)
triggering capacitive means of a charge accumulation stage in response to each detected event.

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8. The device according to the preceding claim, comprising means for shortening the discharge of the capacitive means.

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9. The device according to any of the preceding claims, comprising means for generating two discharge current values in a charge conversion stage.

5 10. The device according to any of the preceding claims, comprising means for switching the discharge current value in a charge accumulation amplifier stage.

10 11. The device according to any of claims 5 to 10, wherein the discharge current of the charge accumulation stage assumes a first value during the idle times and a second value when detecting an event, the second value being larger than the first value.

15 12. The device according to any of the preceding claims, wherein a charge conversion stage includes a continuous discharge current source and a triggered or switched discharge current source.

20 13. The device according to any of the preceding claims, comprising switching means capable of short-circuiting capacitive means of a charge conversion stage.

25 14. The device according to any of the preceding claims, wherein the acquisition circuit comprises a charge accumulation stage comprising a current source and a switch connected in parallel to
30 input and output terminals of an amplifier and/or a capacitance.

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15. The device according to any of claims
11 to 14, wherein the value of the discharge current of
the charge accumulation stage during the idle time is
adjusted to a value of the order of the parasitic,
5 leakage or darkness current of the detector component.

16. The device according to any of the
preceding claims, wherein the acquisition and counting
circuit comprises a feedback or counter-reaction loop
10 between a point downstream from a charge accumulation
stage and said stage.

17. The device according to the preceding
claim, wherein the continuous resetting means (RAZ) are
15 applied to said accumulation stage.

18. The device according to claim 16 or 17,
wherein the feedback control loop retransmits signals
of count pulses.
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19. The device according to any of claims
16 to 18, wherein the feedback loop transmits a signal
from a threshold comparator stage.

20. The device according to any of claims
16 to 19, wherein the feedback loop controls switching
means connected to terminals of the charge accumulation
stage.
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21. The device according to any of claims 16 to 20, wherein the feedback loop controls a discharge current source.

5 22. The device according to any of the preceding claims, comprising means for increasing the rise amplitude of a pulse signal emitted during each detection event associated with means for reducing the fall time of said signal.